



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,161	08/10/2006	Ulrich Peuchert	3811	6875

7590
Striker Striker and Stenby
103 East Neck Road
Huntington, NY 11743

EXAMINER

JOHNSON, KEVIN M

ART UNIT	PAPER NUMBER
----------	--------------

1793

MAIL DATE	DELIVERY MODE
-----------	---------------

04/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,161	Applicant(s) PEUCHERT ET AL.	
	Examiner KEVIN M. JOHNSON	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38, 40-47 and 49-86 is/are pending in the application.
- 4a) Of the above claim(s) 51-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38, 40-47, 49, 50 and 81-84 is/are rejected.
- 7) ☒ Claim(s) 85 and 86 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status

1. Claims 38, 42-45, 49 and 81 are amended. New claims 84-86 have been added. Claims 51-80 are withdrawn. Claims 38, 39-47, 49, 50 and 81-86 are pending and presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 38, 40-47, 81 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 6800574).

In regard to claims 38, 40-47 and 81, Anderson teaches a glass composition that consists of greater than 80 wt% SiO₂, 4-15 ion% of a modifying dopant and 0.0015-5 ion% of a rare earth dopant (column 4, lines 8-35). The modifying dopant may be Zr (column 5, lines 48-58), and the rare earth dopant may be Yb (claim 4). The dopants may be present in oxide form (column 5, lines 59-60), and this would be expected as the production process includes the calcination of the precursor materials in oxidizing conditions (examples 1-6).

It is well established that when ranges disclosed in the prior art overlap with the ranges required in the instant claims a case of *prima facie* obviousness exists (MPEP 2144.05). Further, as the glass composition taught in Anderson is the same as the composition required by the claims it would necessarily follow that the composition taught by Anderson would be capable of acting as an X-ray opaque glass. An example of a composition that meets the requirements of the prior art and the instant claims is a glass that consists of 92 mol% SiO₂, 7 mol% ZrO₂ and 1 mol% Yb₂O₃ alternately described as 81.6 wt% SiO₂, 7 cation% Zr⁴⁺ and 2 cation% Yb³⁺.

In regard to claim 84, Anderson teaches that the material may include a mixture of modifying dopants, of which Zr and Ti are included (column 5, lines 48-60). An exemplary composition that meets the requirements of both the instant claims and the

Art Unit: 1793

prior art comprises 88.1 mol% SiO₂, 1 mol% ZrO₂, 9.9 mol% TiO₂ and 1 mol% Yb₂O₃ alternately rewritten as 80.2 wt% SiO₂, 1 cation% Zr⁴⁺, 9.8 cation% Ti⁴⁺ and 2 cation% Yb³⁺.

6. Claims 49, 50, 82 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson as applied to claim 81 above, and further in view of Kunert et al. (US 6297181).

In regard to claims 49 and 82, Anderson fails to teach a glass powder with a mean grain size of 0.2-20 microns.

Kunert teaches that a glass may be converted in a known manner, such as grinding and sieving, to a powder with a mean particle size of 0.5-5 microns (column 7, lines 9-13). This small particle size allows the glass powder to be incorporated in to composites with improved abrasion resistance and mechanical strength (column 7, lines 13-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to produce a glass powder with a mean grain size in the required range of from the glass composition taught by Anderson. Such a modification would have been motivated by the teaching in Kunert that a glass powder with a mean particle size of 0.5-5 microns would increase the industrial applicability of the glass taught by Anderson by improving its usefulness in composite materials.

In regard to claims 50 and 83, Anderson fails to teach that the glass material has a silanized surface.

Kunert teaches that the surfaces of glass powder particles are commonly silanized to promote increased performance (column 7, lines 24-28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to produce a glass powder from the glass composition taught by Anderson with a silanized particle surface. Such a modification would have been motivated by the teaching in Kunert that silanation of glass powder particle surfaces is a common practice, increasing the performance of particulate glass materials.

Allowable Subject Matter

7. Claims 85 and 86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claims differ from the prior art in that the SiO_2 content of the material is required to be less than 88.1 mol%. The closest prior art, Anderson, requires that the material contain at least 80 wt% SiO_2 , but there is no composition that contains at least 80 wt% SiO_2 that may simultaneously be said to contain 88.1 mol% SiO_2 or less when the dopants are selected as Yb_2O_3 and ZrO_2 in the amounts required by Anderson. Therefore, the composition required in claims 85 and 86 does not overlap with the compositional ranges taught by Anderson and is considered to be novel and non-obvious.

Response to Arguments

8. Applicant's arguments filed 4/1/2009 have been fully considered but they are not persuasive.

The argument that the compositional ranges disclosed in Anderson are too broad to constitute a case of *prima facie* obviousness over the compositions required in the instant claims is not persuasive. The composition taught by Anderson is broader than the narrow ranges required by the instant claims, but does adequately disclose compositions that meet the requirements of the instant claims. Yb is specifically mentioned as an active rare earth dopant (column 5, lines 29-35), and Zr is disclosed as a useful modifying dopant (column 5, lines 48-60). As no evidence has been provided that the compositional ranges required by the instant claims are critical in establishing a material that has properties that would be surprising based on the performance expected from the broader disclosure by Anderson a case of *prima facie* obviousness exists (see MPEP 2144.05 III).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the method of making) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The argument that Anderson teaches away from the composition required by the instant claims is not persuasive. It is agreed that the preferred embodiments disclosed by Anderson do not meet the requirements of the instant claims, but the teachings of the prior art are not limited to the preferred embodiments. The disclosure of Anderson includes compositions that meet the requirements of the instant claims, and the mere

non-selection of such compositions as exemplary embodiments in Anderson can not be considered to actively teach away from the compositions required in the instant claims.

The argument that the material taught by Anderson would not include Yb_2O_3 and therefor does not meet the requirements of the instant claims is not persuasive.

Anderson teaches that the rare earth dopants may be in the oxide form (column 5, lines 29-35). Further, one of ordinary skill in the art time of the invention would expect the dopants in the material taught by Anderson to be in the oxide form, as the production process taught by Anderson includes the calcination at high temperatures of the precursor materials in oxidizing conditions (examples 1-6).

The argument that the compositional ranges taught by Anderson do not overlap with the compositional ranges required by the claims is not persuasive. While it is agreed that none of the applicants' examples that have been provided on pages 16-18 of the arguments meet the requirements of Anderson it should be noted that the claims are not limited to only these exemplary embodiments. The claimed ranges do overlap with compositional ranges disclosed in Anderson, for example a composition containing 92 mol% SiO_2 , 7 mol% ZrO_2 and 1 mol% Yb_2O_3 alternately described as 81.6 wt% SiO_2 , 7 cation% Zr^{4+} and 2 cation% Yb^{3+} meets the requirements of both the instant claims and the Anderson reference.

The argument that there is no motivation to combine the teachings of Anderson and Kunert is not convincing. The motivation for the combination is found in the teaching in Kunert that glass particles with sizes of 0.7-1.5 microns and silanized

Art Unit: 1793

surfaces are especially useful in the formation of composite materials with improved mechanical properties (column 7, lines 9-28).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN M. JOHNSON whose telephone number is (571)270-3584. The examiner can normally be reached on Monday-Friday 7:30 AM to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/
Supervisory Patent Examiner, Art Unit 1793

/Kevin M Johnson/
Examiner, Art Unit 1793